UNITED STATES MARINE CORPS
MARINE CORPS AIR STATION
BOX 99100
YUMA, ARIZONA 85369-9100

StaO 6260.1C
3LA
12 DEC 1997

STATION ORDER 6260.1C

From: Commanding Officer
To: Distribution List

Subj: STATION RESPIRATORY PROTECTION ORDER

Ref: (a) 29 Code of Federal Regulations 1910.134
(b) American National Standard ANSI Z88.2 1980
(c) MCO 5100.8E
(d) OPNAVINST 5100.23D
(e) NEHC 6260 TM96-1 Medical Surveillance Procedures Manual

Encl: (1) Respirator Types and Selection
(2) Qualitative Fit Procedures
(3) Respirator Maintenance
(4) Request for Medical Qualification For Respirator Use

1. Purpose. This Order establishes the Respiratory Protection Program for Marine Corps Air Station (MCAS) Yuma and outlines the activity's program criteria, procedures, and responsibilities in accordance with references (a) through (e).

2. Cancellation. StaO 6260.1B.

3. Scope. This Order covers all operations which require or may require the proper use of respirators to protect personnel in the work environment.

4. Background. Engineering and/or administrative controls should be the primary methods to eliminate over exposures to hazardous respirable materials and environments. Where these controls are not feasible, or during an interim period of implementation, proper respiratory protective equipment shall be used to eliminate over exposures.

5. Procedures for Respiratory Protection

a. Each area requiring, or suspected of requiring, respiratory protection must be evaluated to determine the contaminants involved and the extent of the hazard prior to issuance of respirators.

b. The type of respirator will then be selected to meet National Institute for Occupational Safety and Health recommendation for providing proper protection to the personnel. Enclosure (1) lists limitations of some types of respirators.

c. Areas and/or operations which require the use of respiratory protective equipment shall be labeled with appropriate signs.

d. Branch Medical Clinic (BMC) must be contacted to determine if the worker is capable of wearing a respirator and doing the specific tasks.

e. Commands requiring personnel to be entered onto the Respiratory Protection Program must have a Respiratory Protection Program Manager (RPPM). The RPPM may be from this command, or commands with few personnel requiring respirators may have one RPPM to manage the Respiratory Protection Program (RPP) of these multiple commands. The RPPM training course can be scheduled through the Ground Safety Office.

f. A fitting test will be performed on each individual to ensure proper fit as per enclosure (2). The Certified RPPM's for the respective command will conduct fitting tests.

g. Records shall be kept to ensure personnel always use that particular type and size of respirator.

h. If feasible, each worker requiring a respirator will be provided with one for his/her exclusive use and instructed on the care, use, and maintenance of the respirator. Enclosure (3) is a maintenance guide. If exclusive assignment of respirators is not feasible, a stock of respirators will be kept locally and the correct size and type respirator will be checked out for each task requiring a respirator. Shared respirators must be properly cleaned and disinfected prior to and after use.

i. The Industrial Hygienist will provide information and assistance for selecting and fitting respirators.

6. Action

a. Industrial Hygienist. The Industrial Hygienist shall:

(1) Evaluate workplace environment and determine which, if any, respirator shall be used in the area.

(2) Assist supervisory personnel, workers, and the Command Respiratory Protection Managers in the proper selection and wearing of respirators.

(3) Keep abreast of changes in the respiratory protection field and relate them to this program.

b. Branch Medical Clinic

(1) Active duty personnel and Civil Service employees identified by the Industrial Hygiene Survey or the Organizational Safety Representative requiring respiratory protection equipment shall be placed in and monitored in the respiratory protection program.

(2) The medical surveillance for the RPP shall be performed at the Occupational Health Unit of the BMC.

(3) The Safety Representative and/or Command RPPM shall request, by phone or in writing, appointment time for medical surveillance examinations. Personnel are scheduled for medical examination in their birth month if possible.

(4) Personnel scheduled for examinations should arrive at the Occupational Health Unit in the clinic on time. They should bring their medical record and a completed REQUEST FOR MEDICAL QUALIFICATION FOR RESPIRATOR USE form (enclosure (4).

This form must be signed by their RPPM. Return appointments will be scheduled as needed.

(5) In order to maximize the limited medical resources of the program, unit Organization Safety Representatives will be notified whenever an individual misses an appointment.

(6) Safety Representatives and/or RPPM shall maintain a current roster of identified personnel in the RPP and a tracking program to ensure personnel fulfill their medical surveillance program requirements.

A copy of the occupational health evaluation which includes status of qualification, restrictions, and recertification dates will be provided to the RPPM.

c. ServMart Personnel. ServMart personnel issuing respirators shall ensure respiratory equipment meets National Institute for Occupational Health Standards. Respirator equipment, spare parts and cartridges compatible with those distributed by safety and occupational health manager shall be made available.

d. Supervisors. Supervisors shall:

(1) Support the RPP to ensure workers are not exposed to hazardous materials or conditions unless properly protected.

(2) Ensure respirators approved by the National Institute for Occupational Health Standards are being used properly within their limitations.

(3) Keep an updated record on contaminants in his/her area and the respiratory protection specified for each hazardous operation.

(4) Ensure areas/operations requiring respirators are posted with hazard warnings and that respirators are used properly.

(5) Schedule all personnel in the RPP with the BMC for physical examinations. Persons unable to obtain written medical approval indicating that they are physically fit to wear a respirator will not be assigned tasks

which require respiratory protection. Medical certification records will be kept on file for inspection. In some cases, the ability to wear a respirator may be a precondition of employment.

(6) Ensure that all personnel using respirators have been trained in their use, fit tested and evaluated for respirator use by a physician.

(7) Keep records of employees and types of respirators for which they have been fitted and received training.

e. Personnel. Personnel shall:

(1) Use the provided respiratory protection in accordance with training and instructions received.

(2) Inspect the respirator before and after every use.

(3) Check the respirator for proper fit prior to each use.

(4) Go to a "clean" air environment if the respirator malfunctions, or if the contaminant is smelled, correct the problem, changing respirator cartridges, if necessary.

(5) Report any respirator malfunction or usage problem to the supervisor.

(6) Clean and properly store the respirator after each use.

7. Summary of Revision. This revision contains a substantial number of changes and should be reviewed in its entirety.

8. Concurrence. The Commanding Officers of MAG13, MWSS371, VMFT401, and MACS7 concur in and make this directive applicable to their respective commands.

C. J. TURNER

DISTRIBUTION: B

RESPIRATOR TYPES AND SELECTION

1. Types of Respirators. There are two major types of respiratory protective devices grouped according to mode of operation.

a. Airpurifying respirators. These respirators shall not be used in atmospheres immediately hazardous to life. These respirators do not provide oxygen and shall not be used in oxygen deficient atmospheres. An oxygen deficient atmosphere is one that contains less than 19.5 percent oxygen. Under prescribed conditions, a respirator filter or cartridge can be expected to last an 8 hour work shift without need for replacement. Respirator filters and cartridges may last longer with limited usage or small concentrations of contaminants. A mechanical airpurifying respirator may be used until breathing difficulty is experienced and a chemical cartridge must be changed if an odor is detected through the cartridge. Note: When using a chemical cartridge, it must be capable of absorbing the contaminant and the contaminant must have a highly detectible odor at levels of exposure below the allowed exposure limit. Airpurifying cartridges are divided into three groups.

(1) Particulate removing (mechanical type) filter cartridges containing a media which blocks entry of a contaminant into the respirator.

(2) Gas and vapor removing (chemical type) cartridges remove contaminants by adsorbing or absorbing them. Chemical cartridge respirators cannot be used for exposure to material which is irritating to the eyes unless the full face piece respirator is used. These respirators cannot be used for a gas or vapor which is toxic at very low levels; one which is not effectively stopped by the chemical sorbent, one which cannot be clearly detected by odor, and cannot be used for concentrations in excess of the cartridge's rated limit.

(3) Combination (chemical and mechanical) respirators may be used where both types of protection are required within the respirator's limitations.

(4) Warning properties such as odor, eye irritation, and respiratory irritation that rely on human senses are not foolproof means of hazard detection. However, they do provide some indication to the wearer that the service of the cartridge or filter is reaching the end of its useful life, that the face piece is not fitted properly, or that there is some other respirator malfunction. Warning properties may be assumed to be adequate when odor, taste, or irritation effects of a substance can be detected and are persistent at concentrations at or below the allowed exposure limit. If the odor or irritation threshold of the substance is greater than the allowed exposure limit, the substance is considered to have poor warning properties. When this occurs, air supplied or selfcontained breathing apparatus shall be specified.

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b. Atmosphere Supplying Respirators. These respirators provide a source of breathable air from outside the work environment and provide protection superior to airpurifying respirators. These consist of two main types:

(1) Supplied air respirators are usually equipped with a full face piece respirator or hood which fits over the head, both of which provide air from a compressor via a hose. An airline respirator may be of continuous flow type, demand or pressure demand type.

(a) Airline couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of airline respirators with nonrespirable gases or oxygen. Breathing gas containers shall be marked in accordance with ANSI standards.

(b) Supplied air respirators (airline and hose mask) will not be used in atmospheres immediately hazardous to life or health unless a small selfcontained breathing apparatus is built in for escape purposes.

(2) SelfContained Breathing Apparatus. There are three different types: recirculating, demand and pressure demand type.

These respirators are used mostly for emergencies where entry into an atmosphere immediately hazardous to life or emergency rescue is required. In an area where the wearer could be overcome by a toxic or oxygen deficient atmosphere, at least one additional person shall be present. Communications, visual, voice, or signal line, shall be maintained between both or all individuals present. Planning shall be such that one individual will be unaffected by any unlikely incident and the proper rescue equipment will be present to assist in case of an emergency. Lifelines shall be utilized to aid in locating and rescue of selfcontained breathing apparatus users in the event of an emergency.

2. Breathing Air Quality. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Pamphlet G7.1 1966. Compressed oxygen shall not be used in supplied air respirators or in open circuit selfcontained breathing apparatus that have previously used compressed air. (Caution: Oxygen shall never be used with airline respirators.) Breathing air may be supplied to respirators from cylinders or air compressors. Cylinders shall be maintained according to Department of Transportation 49 CFR Part 178. The compressor for supplying air shall be equipped with necessary safety and standby devices. A breathing airtype compressor shall be used. Compressors shall be constructed and situated as to avoid entry of contaminated air into the system and suitable in line air purifying sorbent beds and filters installed to further assure breathing air quality. Alarms to indicate compressor failure and overheating shall be installed in the system. If an oil lubricated compressor is used, it shall have a high temperature or carbon monoxide alarm, or both. If only a high temperature alarm is used, the air from the compressor shall be tested at least monthly for the presence of carbon monoxide.

3. Selection Procedures. Selecting the proper respirator must be based on the hazard present, its concentration, and the form of hazard (vapor, particulate, etc.).

QUALITATIVE FIT PROCEDURES

1. Negative Pressure Test. To be performed prior to each respirator use.

a. Close off air inlet by either:

(1) Covering filters and/or cartridges with palms of hands or any other way of sealing (i.e., plastic sheets, fitted rubber cover, etc.).

(2) Squeezing breathing tube to stop air passage.

b. Inhale gently to collapse mask and hold for 10 seconds.

c. If face piece remains collapsed and no inward leakage is detected, the respirator probably has a good seal.

2. Positive Pressure Test. To be performed prior to each respirator use.

a. Close off exhalation valve(s).

b. Exhale gently to create slight positive pressure in mask.

c. If positive pressure can be maintained without detection of outward leakage, face seal is satisfactory.

3. Irritant Fume Test Protocol

a. Respirator selection. A respirator shall be selected and equipped with a combination of highefficiency and acidgas cartridges.

b. Fit test

(1) The test subject shall be allowed to smell a weak concentration of the irritant smoke to familiarize the subject with the characteristic odor.

(2) The test subject shall properly do the respirator selected as above, and wear it for at least 10 minutes before starting the fit test.

(3) The test conductor shall review this protocol with the test subject before testing.

(4) The test subject shall perform the conventional positive pressure and negative pressure fit checks. Failure of either check shall be cause to select an alternate respirator.

(5) Break both ends of a ventilation smoke tube containing stannic oxychloride, such as the MSA part #5645, or equivalent. Attach a short length of tubing to one end of the smoke tube. Attach the other end of the smoke tube to a low pressure air pump set to deliver 200 milliliters per minute or to squeeze bulb.

(6) Advise the test subject that the smoke can be irritating to the eyes and instruct the subject to keep the eyes closed while the test is performed.

(7) The test conductor shall direct the stream of irritant smoke from the tube towards the face seal area of the test subject. The person conducting the test shall begin with the tube at least 12 inches from the face piece and gradually move to within one inch, moving around the whole perimeter of the mask.

(8) The test subject shall be instructed to do the following exercises while the respirator is being challenged by the smoke. Each exercise shall be performed for 1 minute.

(a) Breathe normally.

(b) Breathe deeply. Be certain breaths are deep and regular.

(c) Turn head all the way from one side to the other. Be certain movement is complete. Inhale on each side. Do not bump the respirator against the shoulders.

(d) Nod head up and down. Be certain motions are complete and made every second. Inhale when head is in the full up position (looking toward ceiling). Do not bump the respirator against the chest.

(e) Talk aloud and slowly for several minutes.

(f) Jogging in place.

(g) Breathe normally.

(9) The test subject shall indicate to the test conductor if the irritant smoke is detected. If smoke is detected, the test conductor shall stop the test. In this case, the tested respirator is rejected and another respirator shall be selected.

(10) Each test subject passing the smoke test (i.e., without detecting the smoke) shall be given a sensitivity check of smoke from the same tube to determine if the test subject reacts to the smoke. Failure to evoke a response shall void the fit test.

(11) This fit test protocol shall be performed in location with exhaust ventilation sufficient to prevent general contamination of the testing area by the test agents.

(12) The test shall not be conducted if there is any hair growth between the skin and the face piece sealing surface.

(13) If hair growth or apparel interfere with a satisfactory fit, then they shall be altered or removed so as to eliminate interference and allow a satisfactory fit. If a satisfactory fit is still not attained, the test subject must use a positivepressure respirator such as powered airpurifying respirators, supplied air respirator, or selfcontained breathing apparatus.

(14) If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician trained in respirator diseases or pulmonary medicine to determine whether the test subject can wear a respirator while performing her or his duties.

(15) In addition, because the sealing of the respirator may be affected, qualitative fit testing shall be repeated immediately when the test subject has a:

(a) Weight change of 20 pounds or more.

(b) Significant facial scarring in the area which affects the seal of the face piece.

(c) Significant dental changes: i.e., multiple extractions without prosthesis, or acquiring dentures.

(d) Reconstructive or cosmetic surgery.

(e) Any other condition that may interfere with sealing of the face piece.

c. Record keeping. A summary of all test results shall be maintained in each office for 3 years. The summary shall include:

(1) Name of test subject.

(2) Date of testing.

(3) Name of test conductor.

(4) Respirators selected (indicate manufacturer, model, size and approval number).

(5) Testing agent.

RESPIRATOR MAINTENANCE

1. Respirator Inspection. Respirators which are not disposable shall be inspected routinely before and after each use. A respirator that is not routinely used, but is kept ready for emergency use, shall be inspected before and after each use and at least monthly to assure that it is in satisfactory operating condition. The monthly inspection shall be recorded on a permanent ledger and maintained near the respirator. The following is a guide for inspecting respirators.

a. Airpurifying respirators (quartermask, halfmask, full face piece, and gas mask):

(1) Rubber face piece, check for:

(a) Excessive dirt.

(b) Cracks, tears, or holes.

(c) Distortion from improper storage.

(d) Cracked, scratched or loose fitting lens (full face piece).

(e) Broken or missing mounting clips.

(2) Headstraps, check for:

(a) Breaks.

(b) Loss of elasticity.

(c) Broken or malfunctioning buckles or attachments.

(d) Excessively worn serration of the head harness which might allow the face piece to slip (full face piece only).

(3) Inhalation valve, exhalation valve, check for:

(a) Detergent residue, dust particles, or any dirt on the valve or valve seat.

(b) Cracks, tears, or any type of distortion in the valve material, or valve seat.

(c) Missing or defective valve cover.

(4) Filter element(s), check for:

(a) Proper filter for the hazard.

ENCLOSURE (3)

(b) Approval designation.

(c) Missing or worn gaskets.

(d) Worn threads both filter threads and face piece threads;

(e) Cracks or dents in filter housing;

(f) Deterioration of harness (gas mask canister);

(g) Service life indicator, or end of service date for expiration (gas mask).

(5) Corrugated Breathing Tube (gas mask), check for:

(a) Cracks.

(b) Missing or loose hose clamps.

(c) Broken or missing connectors.

b. AtmosphereSupplying Respirators. Check face piece, headstraps, valves, and breathing tube as discussed previously.

(1) Hood, helmet, blouse, or full suit (if applicable), check for:

(a) Rips and torn seams.

(b) Headgear suspension.

(c) Cracks or breaks in face shield.

(d) Protective screen to see that it is intact and fits correctly over the faceshield (abrasive blasting hoods and blouses).

(2) Air Supply System, check for:

(a) Breaks or kinks in air supply hoses and end fitting attachments.

(b) Tightness of connections.

(c) Proper setting of regulators and valves (consult manufacturer recommendations).

(d) Correct operation of air purifying elements and carbon monoxide or high temperature alarms.

(3) SelfContained Breathing Apparatus (SCBA): Consult manufacturer's literature. If defects are observed in a respirator, it must be removed from use until adequately repaired, or it must be replaced.

2. Respirator Cleaning and Storage. At the end of the workshift, the respirator shall be cleaned and stored in a convenient, clean location. If the respirator is shared, it shall be cleaned and disinfected between users. Each worker shall be briefed on the cleaning procedures and be assured that he/she will always receive a clean and disinfected respirator. This assurance is significant when respirators are not individually assigned. The following procedure is recommended for cleaning and maintenance of respirators:

a. Inspect all cartridges and filters and determine if they are reusable. Do not submerge filters or cartridges in water or cleaning solution.

b. Wash with a detergent or a combination detergent and disinfectant, in warm water using a soft brush.

c. Rinse in clean water, or rinse once with a disinfectant and once with clean water. (The clean water rinse is particularly important because traces of detergent or disinfectant left on the mask can cause skin irritation or dermatitis.)

d. Dry on a rack or hang from a clothes line. In either case, position the respirator so that the face piece rubber will not "set" crooked as it dries.

e. Store in a sealed plastic bag away from excessive heat or cold and away from any contaminating chemicals or dirt.

StaO 6260.1B
12 DEC 1997

REQUEST FOR MEDICAL QUALIFICATION FOR RESPIRATOR USE

Employee	SSN	Date of Birth
Supervisor	Phone #	Command

Circle type or types of respirator(s) to be used:

Atmosphere-supplying respirator Air-purifying respirator

Self-contained breathing apparatus (SCBA) Other: _____

Requirement (circle):

Required by Industrial Hygiene Survey Humanitarian Special Project

Level of work effort (circle one):

Light Moderate Heavy Strenuous

Extent of usage:
1. On a daily basis
2. Occasionally - but more than once a week
3. Rarely - or for emergency situation only

Length of time of anticipated effort in hours/day: _____

Special work considerations: extreme temperature confined spaces

isolated duty oxygen deficient IDLH(immediate danger to life or health)

_____
Respiratory Protection Program Manager

Phone #_____

- -

OCCUPATIONAL HEALTH EVALUATION

_____ has been found to be medically qualified/unqualified
(Name)

to utilize _____type(s) respirator

Restrictions: _____

_____

Date exam completed: _____

Date Recertification due: _____

_____
Occupational Health Representative

Occupational Health Unit _____

ENCLOSURE (4)